

IN THE CLAIMS

Please replace the claims as filed with the claims set forth below. This listing of claims will replace all prior versions, and listings, of claims in the application:

1-21. Cancelled.

22. (Currently Amended) A detection system comprising:

a light emitting diode (LED) having at least one (semi)conductive electroluminescent active layer which comprises at least two different electroluminescent functionalities, wherein the emission spectrum of the diode exhibits at least two intensity maxima and wherein the active layer comprises at least one electroluminescent organic compound; and

a detector in optical communication with the LED.

23. (Previously Presented) The detection system according to claim 22, wherein the LED comprises an electroluminescent compound selected from a group consisting of electroluminescent polymers, electroluminescent oligomeric dyes and electroluminescent single dyes.

24. (Previously Presented) The detection system according to claim 22, wherein the LED comprises an electroluminescent polymer and an electroluminescent single dye.

25. (Previously Presented) The detection system according to claim 22, wherein two different electroluminescent functionalities are formed by a first and a second electroluminescent compound, wherein the first compound has a maximum in the emission spectrum at a different wavelength than the second compound.

26. (Previously Presented) The detection system according to claim 22, wherein at least two different electroluminescent functionalities form part of one electroluminescent compound.

27. (Previously Presented) The detection system according to claim 26, wherein the compound is selected from a group consisting of copolymers having at least two different electroluminescent segments, electroluminescent polymers derivatized with at least one electroluminescent dye, and non-electroluminescent compounds, derivatized with at least two different electroluminescent dyes.

28. (Previously Presented) The detection system according to claim 22, wherein at least one electroluminescent compound is selected from a group consisting of poly(paraphenylene vinylene) compounds, polyfluorene compounds, copolymers of said polymers and polymers derivatized with one or more of said dyes.

29. (Previously Presented) The detection system according to claim 22, wherein the emission spectrum of the LED is bimodal.

30. (Previously Presented) The detection system according to claim 22, wherein the difference in wavelength between two consecutive maxima in the emission spectrum of the LED is at least 40 nm.

31. (Previously Presented) The detection system according to claim 22, wherein the LED's emission spectrum has at least one maximum, preferably at least two maxima, in the wavelength range of 190-1500 nm, preferably of 400-800 nm.

32. (Previously Presented) The detection system according to claim 22, wherein the intensity ratio between two consecutive maxima in the emission spectrum is in the range of 0.5 to 1.

33. (Previously Presented) The detection system according to claim 22, wherein in the emission spectrum the peak to valley ratio of the first and the second maximum is at least 2.

34. (Previously Presented) The detection system according to claim 22, wherein the LED comprises a filter.

35. (Previously Presented) The detection system according to claim 34 wherein the LED comprises a filter with notch filter properties, which filter selectively has at least a reduced transmission of light of a wavelength between two consecutive intensity maxima.

36. (Currently Amended) The detection system according to claim 22, wherein the LED, depending on the direction of the electric current through the active layer, emits light having a first intensity maximum when electric current is applied through the active layer in a first direction and or, conversely, emits light having a second intensity maximum when electric current is applied through the active layer in a second direction, wherein the second intensity maximum is different from the first intensity maximum.

37.-41. (Cancelled)

42. (New) The detection system of claim 22 wherein the detector comprises at least one photodiode.